

VU Research Portal

Interfacing language and social cognition

Semin, G.R.

published in

Journal of Language and Social Psychology
1995

DOI (link to publisher)

[10.1177/0261927X95141010](https://doi.org/10.1177/0261927X95141010)

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Semin, G. R. (1995). Interfacing language and social cognition. *Journal of Language and Social Psychology*, 14, 182-194. <https://doi.org/10.1177/0261927X95141010>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

INTERFACING LANGUAGE AND SOCIAL COGNITION

GÜN R. SEMIN

Free University Amsterdam

It is argued that an interface between language and social cognition can take place only if one addresses language with the same methodological commitment that social cognition has hitherto received. Such a methodological commitment means treating language as a tool, with distinct cognitive properties in its own right. An overview of a research programme is provided that treats interpersonal language as consisting of tools and is concerned with an empirical examination of the cognitive properties of these tools. It is then shown how a better understanding of social cognitive processes can be achieved by showing how different linguistic categories trigger qualitatively different cognitive processes. In conclusion, it is argued that without a clear understanding of the medium by which communication is achieved—namely, language—it is difficult if not impossible to understand social cognition.

In psychology, the mainstream focus of attention has been on the processes, properties, and/or attributes of individual agents. For social psychology, this continued methodological commitment has meant that the analysis of intrapsychological processes has remained in the forefront of research and theory. Consequently, this has meant that “social psychology and cognitive social psychology are today nearly synonymous. The cognitive approach is now clearly the dominant approach among social psychologists, having virtually no competitors” (Markus & Zajonc, 1985, p. 137). The validity of this statement has not diminished in the interim (cf. Devine, Hamilton, & Ostrom, 1994; Higgins & Kruglanski, in press), and most, if not all, of our current theorising, modelling, and explanations can be regarded as consisting of the systematic and elegant unfolding of internal mental processes, or intrapsychological processes (cf. Fiske & Taylor, 1992). The attempts of early critiques (e.g., Israel & Tajfel, 1972) to introduce a social

AUTHOR'S NOTE: *The research reported in this article was facilitated in part by a Netherlands Organization for Scientific Research Pionier Grant (PGS 56-381). An earlier version of this article was delivered as a keynote address to the International Language and Social Psychology Conference, held in Brisbane, Australia, in July 1994. All correspondence should be addressed to Gün R. Semin, Kurt Lewin Institute, Department of Social Psychology, Free University Amsterdam, De Boelelaan 1081c, 1081 HV-Amsterdam, The Netherlands. Electronic mail should be addressed to v73usemi@hasara11.bit-net.*

context to social psychology by shifting the analysis from the individual to the social level have had little effect. The radical departures that proffered an epistemological exit in the mid-seventies have remained policy statements, without being able to advance a research paradigm of any promise and consistency.

With very few exceptions, even in the case of specific developments within social psychology that some would regard as prime material for the analysis of the broader social context (cf. Tajfel, 1972)—namely, the analysis of intergroup processes and self-categorization (e.g., Turner & Oakes, 1986)—the focus has primarily been on a tradition of cognitive processes relying, amongst other things, on Rosch's work on prototypicality, Tversky's feature matching, and the work of Taylor, Fiske, Ross, and others on salience and availability. In this article, I would like to advance the argument that language and its analysis provide a critical social context within which social cognition can be cast, and the theoretical orientation and research that I shall review consist of an attempt to bring about an interface between the social and the psychological (see Semin & Manstead, 1979).

One of the most pervasive contexts through which social behaviour and social cognition are made possible is the communicative context and the central medium by which communication is enabled—namely, language:

Knowledge about the world and social reality are generated, articulated and communicated through the medium of language. This is not to deny or question the relevance of non-verbal communication. However, it is difficult if not impossible to imagine how systematic and coherent communication could be sustained only by non-verbal means. Knowledge about the world in general but also about social interaction and social reality are mapped into language in an integral way. Language does not only contain the distilled or crystallised knowledge of generations before us; it enables us to structure our present by bringing the past to bear upon it, and also furnishes a medium by which bridges to the future may be built. (Semin & Fiedler, 1992b, p. 2)

Attempts to interface language and social cognition have been sporadic and unsystematic, despite the centrality of language for social psychology in general and social cognition in particular.

The absence of a fruitful link between social behavior and intrapsychological processes has primarily been because, in contrast to the analysis of intrapsychological processes, we have to date not developed a handle on language that allows us to make it amenable to systematic analysis in social psychology. Admittedly, language is a complex medium by which social behavior is maintained, and it is this complexity that has made it difficult to handle in a manner amenable to the kind of systematic and objective analysis commonly regarded as the road to a science. In principle, this has been due to the difficulties in developing a model of language that, on one hand, provides it with a privileged status and, on the other hand, enables its systematic analysis in

interdependence with cognitive processes. By a privileged status, I mean a conceptual status that facilitates the analysis and empirical examination of language in a manner comparable to the one afforded by intrapsychological processes. This type of analysis means to develop a methodological orientation and commitment to language as a research object in its own right, which is comparable to the methodological commitment that has been characteristic of the analysis of social cognition.

In the following pages, I shall begin by providing a brief outline of a view of language that allows its privileged methodological treatment, by treating language as a tool and language use as tool use. I shall then provide a brief review of a research programme that has systematically analysed interpersonal language within this framework by treating interpersonal language as consisting of a variety of tools. The focus of this research programme consists in the identification of both the distinct tools and their systematic cognitive properties. This is in fact the work done on the so-called linguistic category model (e.g., Semin & Fiedler, 1988, 1991, 1992a; Semin & Greenslade, 1985; Semin & Marsman, in press). Finally, in the closing section, I shall provide a research example that illustrates the interface of language and social cognition, or rather the interdependence between language and social cognitive processes.

LANGUAGE AS A TOOL

The idea or metaphor that language is a tool upon which knowledge is mapped is critical to the development of this perspective. I use this analogy expressly to invite you to think about linguistic devices such as verbs, adjectives, and nouns very much in the way in which one would think about hammers, saws, and pliers. These tools, which are feats of centuries of engineering, not only are the products of experience and knowledge but also represent this knowledge. There is no doubt that I can split a piece of wood into two with a hammer, but a saw is a more sophisticated tool engineered for this purpose. Indeed, I can push a nail into wood with the end of a saw, but a hammer is a more appropriate tool to do so. Yet certain hammers have other properties. They are also suitable to extract nails, and so on. These special tools contain the distilled knowledge about the best fit between a task or goal and human propensities (in particular, physical ones: movement, handling, vision, etc.).

One task that the metaphor of language as a tool entails is to examine and reveal the distinctive properties of such tools. In the case of interpersonal language, the first step for such a task is to identify the types of tools that are available. The second step is to determine the particular jobs for which such tools have been tailored. Obviously,

these two steps are not independent of each other. The first type of research (examining the properties of tools) is by definition decontextualized, in that it focuses on language in the abstract. Therefore, it does not constitute an investigation of language in use, or speech (see de Saussure, 1914/1960; Ricoeur, 1955). Language in use is the medium of communication par excellence.

THE TOOLS OF INTERPERSONAL COMMUNICATION

The analysis of the tools of interpersonal communication addresses the identification of the linguistic devices by which we characterize, describe, and classify social interaction and its actors. In principle, any communicative act can be looked at in a number of different ways: its manifest content, its structural and mechanical characteristics, the types of tools that are used, the metasemantic properties of such tools, and so forth. In the work we have done to date, we have specified a number of linguistic categories that are used in verbal exchanges about interpersonal events. These are interpersonal verbs and adjectives.¹ Thus the entry to the interface between social cognition and language is achieved by systematic research into the tools we employ in verbal exchanges and their properties. This was the focus of our previous work on language—namely, identifying the tools of interpersonal language by developing a taxonomy or classification. In establishing this taxonomic framework, we also investigated the type of knowledge that is systematically mapped or coded in interpersonal language (or the types of cognitive inferences that are systematically mediated by these tools). The objective of this research was to identify the limiting conditions that such tools have and the uses that they can be put to.² I shall summarize this work very briefly here, as it has been detailed elsewhere (Semin & Fiedler, 1988, 1991, 1992a).

Let me start by providing a very brief overview of the model I and my colleagues (Semin & Fiedler, 1988, 1991, 1992a; Semin & Greenslade, 1985; Semin & Marsman, in press) have developed in charting the domain of interpersonal language. Our aim was to develop a framework that would enable us to analyse how interpersonal language marks both the features of social interaction and the properties of persons. To this end, we began by identifying a number of convergent linguistic criteria by means of which it was possible to differentiate systematically between different types of interpersonal verbs and adjectives (cf. Bendix, 1966; Brown & Fish, 1983; Miller & Johnson-Laird, 1969).³ This enabled us to devise a taxonomy by using criteria that were independent of the analysis concerned with the cognitive properties of the respective categories.

With the help of these criteria, a distinction was made between verb categories. The resulting model, termed the linguistic category model,

Table 1

The Classification of Linguistic Terms in the Interpersonal Domain and Their Classification Criteria: The Linguistic Category Model

Category	Examples	Characteristic Features	Classification	Criteria
Descriptive action verbs (DAV)	<i>call, meet, kick, kiss</i>	Reference to single behavioural event; reference to specific object and situation; context essential for sentence comprehension; objective description of observable events.	Refer to one particular activity and to a physically invariant feature of the action; action has clear beginning and end; in general, do not have positive or negative semantic valence.	
Interpretive action verbs (IAV)	<i>cheat, imitate, help, inhibit</i>	<i>Reference to single behavioural event;</i> reference to specific object and situation; autonomous sentence comprehension; interpretation beyond description.	<i>Refer to general class of behaviours; have</i> defined action with a clear beginning and end; have positive or negative semantic valence.	
State action verbs (SAV)	<i>surprise, amaze, anger, excite</i>	As IAV; however, no reference to concrete action frames but to states evoked in object of sentence by unspecified action.	As with IAV, no reference to concrete action frames but to states evoked in object of sentence by unspecified action; “But-test” to distinguish from SVs (see Bendix, 1966).	
State verbs (SV)	<i>admire, hate, abhor, like</i>	Enduring states, abstracted from single events; reference to a social object but not situation; no context reference preserved; interpretation beyond mere	Refer to mental and emotional states; no clear definition of beginning and end; do not take the progressive form; not freely used in imperatives.	
Adjectives (ADJ)	<i>honest, impulsive, reliable, helpful</i>	Highly abstract person disposition; no <i>object or situation reference; no context reference; highly interpretive; detached from specific behaviours.</i>		

Source. Data gathered from Semin and Fiedler (1991, 1992b).

can be seen in Table 1. A distinction was made between four interpersonal verb categories—descriptive action verbs (DAV), interpretive action verbs (IAV), state action verbs (SAV), state verbs (SV)—and adjectives (cf. Semin & Fiedler, 1991, 1992a). In Table 1, I do not attend to the operational details of this classification, aside from drawing attention to some of their features. Having established this classification, we turned to a systematic analysis of the types of cognitive inferences that are mediated by these categories.⁴

Why is it relevant to analyse the properties of these linguistic devices or tools? The properties of tools refer to the types of things that one can do with such tools—that is, their cognitive properties. For instance, if I find out that verbs of action (e.g., *help*, *cheat*, *amuse*) focus the origin of the action on the sentence subject and that verbs of state (e.g., *like*, *hate*, *admire*) focus the origin of the event to the sentence object, then I have an idea of a systematic cognitive property of the tool. To analyse the cognitive properties of linguistic tools reverses a persistent methodological commitment of psychological research. It means a shift of attention from processes or properties that are attributed to individual agents to the properties of the tools by which social cognition is enabled. Therefore, analysing the cognitive properties of tools (not individuals) constitutes the first step toward privileging the status of language in social psychology. Below, I shall very briefly detail the cognitive properties that have been identified within the framework of the linguistic category model.

Table 2 lists some of the inferential properties that interpersonal verbs mediate, along with the types of systematic patterns one discovers across diverse studies. This is a simplified presentation of findings that span a variety of studies across a number of linguistic communities. Thus verbs of action are systematically found to mediate affective inferences to the sentence object, event initiation, and dispositional and causal inferences to the sentence subject. In contrast, verbs of state mediate affective inferences to the sentence subject, and event initiation and causal inferences to the sentence object. Additionally, these verb types mediate systematic inferences about the nature of the event, including how long an event lasts, the ease or difficulty with which the statements constructed with subject verbs can be verified or imagined, and the likelihood that the events or behaviours referred to will be repeated at a future point in time.

A way of simplifying and characterising the diverse inferential properties of interpersonal verbs and adjectives is to identify their common or underlying properties. In fact, one distinctive dimension, operationalized by the inference types listed in Table 1, is a dimension of concreteness to abstractness. The diverse linguistic categories can be ordered systematically on this dimension. DAVs anchor the concrete end of this dimension and ADJs the abstract end, with IAVs, SAVs, and

Table 2
Some of the Inferential Properties of Interpersonal Verbs

Type of Inference	Verbs of Action (DAV, IAV, SAV)	Verbs of State (SV)
Affect/state	Object	Subject
Event duration	Short	Long
Repetition likelihood	Low	High
Number of behaviors referred to	Low	High
Statement verifiability	Easy	Difficult
Event imaginability	Easy	Difficult
Dispositional inference	Subject (strong)	Subject (weak)
Event initiation	Subject	Object
Causal inference	Subject	Object

Source. Data gathered from Fiedler and Semin (1988), Maass, Arcuri, Salvi, and Semin (1989), Semin and Fiedler (1988, 1991), and Semin and Marsman (in press).

Note. DAV = descriptive action verbs; IAV = interpretive action verbs; SAV = state action verbs; SV = state verbs.

SVs representing progressively more abstract categories between these two anchors (see Semin & Fiedler, 1988, 1991).

I have already mentioned that analysing the cognitive properties of linguistic tools in this manner reverses the methodological commitment of social psychological research. To focus on the cognitive properties of the tools used in verbal exchange (as social behaviour) means to treat linguistic categories as independent variables and the instances that fall into them as "subjects." Thus the methodological commitment is shifted to the tool, the linguistic categories, rather than to individuals. But one question that arises on the journey toward interfacing language and social cognition is this: How does one interface tool properties with intrapsychological properties? This implies a revised conceptualization of independent and dependent variables in social psychological research.

THE IMPACT OF TOOLS ON SOCIAL COGNITION

From a unimethodological commitment, which is based primarily on privileging process and properties at the individual level, we turn to a multimethodological orientation, in which one examines the systematic influence that different types of tools exert on intrapsychological processes. This point is illustrated in a study by Marsman and Semin (in press), which examines the properties of interpersonal language as an independent variable in examining intrapsychological processes. The research question is about spontaneous trait inferences (STIs), which have been a relatively prominent subject of recent research on social cognition. The question is simply whether people

make unconscious or automatic trait inferences when they read material depicting a social event.

Early on, Smith and Miller (1979) suggested that people make spontaneous trait inferences from casual exposure to other people's behaviour. More recently, the work by Uleman and his colleagues (e.g., Uleman, 1987; Uleman, Newman, & Winter, 1992) suggests that STIs are already made at the encoding of social events. An example helps to illustrate the research issue. If subjects receive a stimulus sentence, such as "The reporter steps on his girlfriend's foot as they fox-trot," then it is assumed that the behaviour "stepping on feet" leads to the spontaneous trait inference that the reporter is "clumsy." The research question then is whether this inference is made and how to demonstrate it. The debate is also about the processing status of this inference—namely, whether it is made at the encoding stage as suggested by the encoding specificity principle (Tulving & Thompson, 1973). Throughout this research, there have been numerous problems about the status of measures of spontaneous inference—for example, the potentially confounding properties of recall cues; what inferences different types of implicit memory procedures, such as word fragment tasks, measure; whether the dispositional inference is to the actor or the behaviour of a sentence depicting a social event; and so forth (cf. Carlston & Skowronski, 1994; Marsman & Semin, *in press*). In particular, the pattern of recall of stimulus sentences has remained a consistently problematic issue. In our view, one of the major factors contributing to this confusion has remained the neglect of the cognitive properties of the stimulus material in such experiments—namely, sentences depicting social events.

If one analyzes how such sentences are constructed, then it becomes obvious that interpersonal verbs play a critical role in mediating dispositional inferences. The interpersonal verb is the glue by which two persons are held together, and it is the carrier of all the information concerning the properties of the actors and a particular event. Therefore, interpersonal verbs have a critical role to play in the mediation of STIs. Indeed, if STIs are made (about either the particular behaviour or the actors), then the interpersonal verb must function as a critical mnemonic device in this process. Thus knowing something about the cognitive properties of the stimulus tells us something about how the cognitive processes in the subject are influenced. This observation acquires added value in view of the fact that different interpersonal verbs (verbs of action and verbs of state) have been shown systematically to mediate different trait inferences about sentence subject and object (see Semin & Fiedler, 1992a; Semin & Marsman, *in press*). If interpersonal verbs mediate stronger subject-related trait inferences than object inferences, and if this is more pronounced in the case of action verbs, then one would expect people to make stronger STIs to the sentence subject of interpersonal events constructed with action

verbs than to those constructed with state verbs. Further, STIs to sentence subject should in general be stronger than for sentence object. Thus knowledge of the cognitive properties of verbs allows us to test the idea of STIs without having to worry about the potentially confounding effects of constructing special dependent variables, such as word fragment completion tasks or cued recall.

If STIs are mediated by the interpersonal verb in a sentence, then it is possible to make a differentiated recall pattern prediction in uncued recall conditions. The relative proportion of accurate recall of sentence subject should be higher than that of both sentence object and sentence verb. Indeed, if sentence verb mediates trait inferences (i.e., the sentence verb is encoded at a more abstract level in memory—namely, as adjectives), then accuracy of sentence verb recall should be the lowest of the three sentence parts. If, however, the trait inference is to the behavioural event alone, as some have argued (e.g., D'Agostino, 1991), then the prediction would be that the relative recall of sentence verb should be highest, with no difference between the relative recall of sentence subject or object. The advantage of using verb category (action versus state verbs) as a differential predictor of sentence-part recall patterns is that it avoids the potentially confounding influence introduced by different types of cues in the recall process. Indeed, in the first experiment reported by Marsman and Semin (in press), this is precisely the outcome.

The outcome of this experiment suggests that people recall the sentence subject of stimulus sentences significantly better than the sentence object and the sentence verb. Furthermore, this systematic difference was found to be more pronounced for sentences constructed with action verbs than with state verbs. These findings parallel precisely the type of dispositional inference pattern obtained for the same stimulus sentences in dispositional inference tasks that were given to independent sets of subjects. Furthermore, Marsman and Semin (in press) were able to show that this finding is not a sentence position effect, by demonstrating in a further experiment that the pattern of recall is not influenced as a function of whether the stimulus sentence is constructed in the active or in the passive voice.

Knowing the properties of the interpersonal verbs simply means that the degrees of freedom in predictions are increased, and uncertainty (or unexplained variance) is substantially reduced. Therefore, the examination of the cognitive properties (or affordances, in the terminology of Gibson, 1966/1977) of the tools that we use in the examination of intrapsychological processes (in this instance, STI processes) opens the way to elucidating the interactive relationship between the cognitive tools of discourse and their limiting conditions in relation to the limits and possibilities of intrapsychological processes. To analyse one without the other is to ignore the most pervasive ecological reality within which human cognitive processes take place,

and it would seem obvious that representations of events with different predicates (tools) will exert an influence on the types of cognitive processes that are afforded.

CONCLUSIONS AND FUTURE DIRECTIONS

The aim of this article has been to argue for an interface between social cognition and language. To achieve this interface, I have argued that it is critical to shift the methodological commitment in social cognition research from that of the individual to language. This also constitutes a shift in the level of analysis to the social, because language provides one of the most important social inputs into cognition. In the particular research that I have detailed here, it is possible to show that the cognitive properties of interpersonal verbs have a distinct and systematic effect on cognitive processes, and in this particular instance, on recall processes. The proposed change in methodological commitment is not intended or designed to be at the expense of a systematic examination of intrapsychological processes. On the contrary, by providing a clear understanding of the features of language (as in the case of analysing the cognitive properties of the language in stimulus sentences), it is possible to identify and systematize a source of variance that is otherwise treated as error. Indeed, the example provided above is one instance of how linguistic categories can elicit qualitatively different cognitive processes. There is other empirical evidence that suggests that linguistic categories and their properties influence constructive memory processes systematically (cf. Fiedler, Semin, & Bolton, 1989). Further analyses of attributional processes (Fiedler, Semin, & Finkenauer, 1994) suggest that a number of attributional principles may consist in regularities that are not due to some cognitive processing mechanism but exclusively due to regularities of the cognitive properties of the language used in attributional research. More recently, analyses of the actor-observer bias and ego-centric bias have been shown to be predicated on the type of language people use in describing themselves and their partners, and it has been found that attributional research has predominantly focused on particular features of this language and not its entirety (cf. Fiedler, Semin, Finkenauer, Schuldig, & Berkel, in press; Fiedler, Semin, & Koppetsch, 1989; Semin & Fiedler, 1989).

Thus the suggested interface between language and social cognition, in my view, is one clear manner in which one can interface the social and the individual, in terms of the interdependent relationship they have. This emphasis on treating language, as well as the linguistic categories we use in everyday discourse, as an entity with its own cognitive properties effectively means to identify the properties of the tools that we use in discourse and examine their influence on cognitive

processes. The other avenue consists of examining how different cognitive and motivational processes structure and influence tool choice in discourse (cf. de Poot & Semin, *in press*; Maass, Salvi, Arcuri, & Semin, 1989; Semin, Rubini, & Fiedler, *in press*). This is an avenue that allows the examination of specific cognitive processes that mediate the strategic use of language in everyday life. It is only through a clearer understanding of the ecology of social cognition that we will be able to develop a link between the individual and social reality.

Intrapsychological realities always find expression in interactions, and such interactions can only take place through a medium, communication and language. To have communication, we have to take advantage of the services of an intersubjective or objective medium. In such communication processes, we not only convey our wishes, desires, intentions, hopes, and ideas. We also reproduce a medium in which we are able to do the communication, and we produce the structures and properties of this medium in a regular and regulated manner. This medium has its own collectively constituted features and structures. A major part of the research programme that has been briefly summarized here is to treat this medium in its own right and to examine its distinct properties. This, in my view, is a critical balance that must be achieved if we wish to progress to a situation that is theoretically viable for understanding social interaction and its maintenance in the first place. A mere focus on the intrapsychological without acknowledging the social reality within which the intrapsychological occurs will always run the risk of developing explanations that do not link the intrapsychological to the actual objective of social psychology—namely, how our subjective realities are mediated in everyday life.

NOTES

1. Obviously, this is a simplification of the range of tools that are available in interpersonal communication. Amongst others, it does not attend to metaphorical or idiomatic language, or sentence voice, tense, and so forth.

2. One could argue that this is a type of psycholinguistic approach, although it does not fall into the three major concerns of psycholinguistics (cf. Clark & Clark, 1977; Tannenhaus, 1989)—namely, comprehension, speech production, and language acquisition.

3. This procedure circumvents the problem of circularity in defining categories by psychological criteria alone. Although this argument is already documented (cf. Semin & Fiedler, 1991), it will be presented again in the discussion of different models of categorization, for example, prototypical models of categorization presented in the discussion section of this article.

4. I should perhaps note here that this work is based on an exhaustive examination of the interpersonal terms in three languages (Dutch, English, and German). This is somewhat unusual, because it means that the statements one can make are generalizable to a corpus of words (verbs and adjectives) available in the entire language and

not particular to specific ones. The domain of interpersonal verbs alone spans a number of over 4,000 in these languages.

REFERENCES

- Bendix, E. H. (1966). *Componential analysis of general vocabulary: The semantic structure of a set of verbs in English, Hindu and Japanese*. The Hague: Mouton.
- Brown, R., & Fish, D. (1983). The psychological causality implicit in language. *Cognition*, 14, 237-273.
- Carlston, D. E., & Skowronski, J. J. (1994). Savings in the relearning of trait information as evidence for spontaneous inference generation. *Journal of Personality and Social Psychology*, 66, 840-856.
- Clark, H. H., & Clark, E. V. (1977). *Psychology and language: An introduction to psycholinguistics*. New York: Harcourt, Brace, Jovanovich.
- D'Agostino, P. R. (1991). Spontaneous trait inferences: Effects of recognition instructions and subliminal priming on recognition performance. *Personality and Social Psychology Bulletin*, 17, 70-77.
- de Poot, C., & Semin, G. R. (in press). Pick your verbs with care when you formulate a question! *Journal of Language and Social Psychology*.
- de Saussure, F. (1960). *Course in general linguistics*. London: Peter Owen. (Original work published in 1914)
- Devine, P. G., Hamilton, D. L., & Ostrom, T. M. (1994). *Social cognition: Impact on social psychology*. New York: Academic Press.
- Fiedler, K., Semin, G. R., & Bolton, L. (1989). Language use and reification of social information: Top-down and bottom-up processing in person cognition. *European Journal of Social Psychology*, 19, 271-296.
- Fiedler, K., Semin, G. R., & Finkenauer, K. (1994). Welchen Spielraum läßt die Sprache für die Attribution? In F. Försterling & J. Stiensmeier-Pester (Eds.), 3. *Bielefelder Symposium über Attribution* (pp. 187-208). Göttingen: Hogrefe.
- Fiedler, K., Semin, G. R., Finkenauer, C., Schuldig, S., & Berkel, I. (in press). Actor-observer bias in close relationships: The role of self-knowledge and self-related language. *Personality and Social Psychology Bulletin*.
- Fiedler, K., Semin, G. R., & Koppetsch, C. (1991). Language use and attributional biases in close personal relationships. *Personality and Social Psychology Bulletin*, 17, 147-156.
- Fiske, S. T., & Taylor, S. E. (1992). *Social cognition*. New York: McGraw-Hill.
- Gibson, J. J. (1977/66). The theory of affordances. In R. Shaw & J. Bransford (Eds.), *Perceiving, acting and knowing: Toward an ecological psychology* (pp. 67-82). Hillsdale, NJ: Lawrence Erlbaum.
- Higgins, E. T., & Kruglanski, A. (in press). *Social psychology: Handbook of basic principles*. New York: Guilford.
- Israel, J., & Tajfel, H. (1972). *The context of social psychology*. London: Academic Press.
- Maass, A., Salvi, C., Arcuri, L., & Semin, G. R. (1989). Language use in intergroup contexts: The linguistic intergroup bias. *Journal of Personality and Social Psychology*, 57, 981-993.
- Markus, H., & Zajonc, R. B. (1985). The cognitive perspective in social psychology. In G. Lindzey & E. Aronson (Eds.), *The handbook of social psychology* (3rd ed., Vol. 1, pp. 127-230). New York: Random House.
- Marsman, G. J., & Semin, G. R. (in press). The mnemonic functions of interpersonal verbs: Spontaneous trait inferences. *Social Cognition*.
- Miller, G., & Johnson-Laird, P. N. (1969). *Language and perception*. Cambridge: Cambridge University Press.

- Ricoeur, P. (1955). The model of the text: Meaningful action considered as text. *Social Research*, 38, 530-547.
- Semin, G. R., & Fiedler, K. (1988). The cognitive functions of linguistic categories in describing persons: Social cognition and language. *Journal of Personality and Social Psychology*, 54, 558-568.
- Semin, G. R., & Fiedler, K. (1989). Relocating attributional phenomena within the language-cognition interface: The case of actor-observer perspectives. *European Journal of Social Psychology*, 19, 491-508.
- Semin, G. R., & Fiedler, K. (1991). The linguistic category model, its bases, applications and range. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 2, pp. 1-30), Chichester: Wiley.
- Semin, G. R., & Fiedler, K. (1992a). The inferential properties of interpersonal verbs. In G. R. Semin & K. Fiedler (Eds.), *Language, interaction and social cognition* (pp. 58-78). London: Sage.
- Semin, G. R., & Fiedler, K. (1992b). Language, interaction and social cognition—Introduction. In G. R. Semin & K. Fiedler (Eds.), *Language, interaction and social cognition* (pp. 1-10). London: Sage.
- Semin, G. R., & Greenslade, L. (1985). Differential contributions of linguistic factors to memory based ratings: Systematizing the systematic distortion hypothesis. *Journal of Personality and Social Psychology*, 49, 1713-1723.
- Semin, G. R., & Manstead, A.S.R. (1979). Social psychology: Social or psychological? *British Journal of Social and Clinical Psychology*, 18, 191-202.
- Semin, G. R., & Marsman, G. (in press). On the information mediated by interpersonal verbs: Event precipitation, dispositional inference and implicit causality. *Journal of Personality and Social Psychology*.
- Semin, G. R., Rubini, M., & Fiedler, K. (in press). The answer is in the question: The effect of verb causality upon locus of explanation. *Personality and Social Psychology Bulletin*.
- Smith, E. R., & Miller, F. D. (1979). Meditation among attributional inferences and comprehension processes: Initial findings and a general method. *Journal of Personality and Social Psychology*, 44, 492-505.
- Tajfel, H. (1972). Experiments in a vacuum. In J. Israel & H. Tajfel (Eds.), *The context of social psychology* (pp. 69-122). London: Academic Press.
- Tulving, E., & Thompson, D. M. (1973). Encoding specificity and retrieval processes in episodic memory. *Psychological Review*, 80, 353-373.
- Turner, J. C., & Oakes, P. J. (1986). The significance of the social identity concept for social psychology with reference to individualism, interactionism and social influence. *British Journal of Social Psychology*, 25, 237-252.
- Uleman, J. (1987). Consciousness and control: The case of spontaneous trait inferences. *Personality and Social Psychology Bulletin*, 13, 337-354.
- Uleman, J., Newman, L. S., & Winter, L. (1989). Can personality traits be inferred automatically? Spontaneous inferences require cognitive capacity at the encoding. *Consciousness and Cognition*, 1, 77-90.